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EXAMINER				
PRIMO, ALLISTER O				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,981

Applicant(s)

KAMEI ET AL.

Examiner

ALLISTER PRIMO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: See Continuation Sheet

Continuation of Attachment(s) 6). Other: machine translation of JP 11231730.

DETAILED ACTION

Claim Objections

1. Claim 13 is objected to because of the following informalities:

In claim 13, line 3, “a paper sheet quantifier” is a double recitation of that which has already been recited in claim 7. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 7, 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Tagawa (JP 11-231730).

With respect to claims 7 and 17, Tagawa discloses an image forming apparatus, comprising: a paper feed cassette 8 configured to contain paper sheets; a paper sheet quantifier (Tagawa, paragraph [0065]) configured to determine the number of paper sheets contained in the paper feed cassette; an image forming portion configured to form an image on one or more of said paper sheets in response to an image forming request; a control portion configured to cause, prior to commencement of an image forming job in response to said image forming request, the provision of a warning that the number of paper sheets contained in the paper feed cassette is insufficient to complete said image forming job in response to said image forming request; wherein said image forming apparatus is further structured to withhold commencement of said image forming job

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(Tagawa, paragraph [0065], “if residues are insufficient, the warning of the purport that transfer papers are insufficient will be displayed, and operation will be suspended {Step 1209}) if the number of paper sheets contained in the paper feed cassette is insufficient to complete said image forming job (Tagawa, paragraph [9965], “ and it will be judged whether the transfer paper remains enough {step 1208}”) in response to said image forming request.

With respect to claim 14, Tagawa discloses that the warning is "displayed" (paragraph [0065]) thus the warning must be visual.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730) in view of Masako (JP 2000-313533).

With respect to claims 1 and 6, Tagawa discloses the claimed image forming apparatus except for the push-out means. Tagawa discloses an image forming apparatus provided with a paper feed cassette 8 and an image forming portion 11,14-16,27, that takes out a recording medium stored in this paper feed cassette sheet by sheet in response to an image forming request and performs image forming in the image forming portion, the image forming apparatus comprising: a sheet quantity confirming means (Tagawa,

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paragraphs [0061]-[0065], note although it is not clear from the machine translation what means Tagawa attributes to the described operations, such functions would inherently require some type of computer processor) that can confirm the number of sheets of the recording medium stored in the paper feed cassette; and a control means (again, it is not clear which actual structure Tagawa attributes to these processes, but some computer structure would be inherent) that causes the sheet quantity confirming means to confirm the number of sheets of the recording medium stored in the paper feed cassette when an image forming request has been made, and if the number of sheets of the recording medium stored in the paper feed cassette is lower than the number of sheets necessary to complete an image forming operation in accordance with the image forming request, the control means causes the paper feed cassette to display a warning (Tagawa, paragraph [0065]) without commencing the image forming operation, and causes the user to be warned that the number of sheets of the recording medium is insufficient to complete the image forming operation in accordance with the image forming request.

Masako discloses in drawing 2, an image forming apparatus, provided with a paper feed cassette, 1, and an image forming portion (not shown), that takes out a recording medium stored in this paper feed cassette 1 sheet by sheet in response to an image forming request and performs image forming in the image forming portion, the image forming apparatus comprising: a push-out means, 4, that can push out the paper feed cassette from an installed state toward an uninstalled state relative to the main body of the apparatus when the cassette is empty of sheets. It would have been obvious to combine the teaching of Masako with the image forming apparatus disclosed by Tagawa for the advantage of conspicuously displaying when sheets need to be replenished in an

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image forming apparatus and at the same time displaying where the sheets need to be replenished.

With respect to claim 5, the references as applied above disclose the claimed invention Masako further discloses (in drawing 2,) an engaging mechanism that can switch between an engaged state and a released state of the paper feed cassette relative to the main body of the apparatus (with, "push-out means 4" as the engaging mechanism. The solution section lines 3-6 also teaches, "engaging mechanism that can switch between an engaged state and a released state of the paper feed cassette relative to the main body of the apparatus"); and a biasing portion that confers a biasing force on the paper feed cassette in the push-out direction (with, "Spring 5" as the biasing portion); and wherein when the number of sheets of the recording medium stored in the paper feed cassette is lower than the requested number of image forming sheets, the engaging mechanism puts the paper feed cassette in a released state relative to the main body of the apparatus(In solution section lines 7-13).

With respect to claim 19, Tagawa discloses that the device further comprising a warning means (Tagawa, paragraph [0065]), configured to emit a warning that the number of sheets of the recording medium is insufficient to complete the image forming operation in accordance with the image forming request, described in the constitution section.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730) in view of Masako (JP 2000-313533), as applied to claim 1 above, and further in view of Sawada (US 6876819.)

With respect to claim 2, Tagawa in view of Masako discloses the claimed invention except wherein said image forming apparatus is configured to communicate with a terminal machine; wherein said image forming apparatus has received said image forming request from said terminal machine; and wherein said warning is provided at the terminal machine.

Sawada teaches an image forming apparatus that is configured to communicate with a terminal machine, 1; wherein said image forming apparatus has received said image forming request from said terminal machine, 1; and wherein said warning is provided at the terminal machine¹ described in column 2 lines 37 – 59 and more specifically Column 6 lines 1 - 20.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image forming apparatus disclosed by Tagawa in view of Masako with the teaching of Sawada for the purpose of remotely monitoring an operating condition of the image forming device.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730) in view of Masako (JP 2000-313533), as applied to claim 1 above, and further in view of Fukuda (JP 57-160844).

With respect to claim 3 Tagawa in view of Masako discloses the claimed invention except for the paper storage board that supports a recording medium and moves to a lower position as the number of stored sheets of the recording medium increases; wherein the sheet quantity confirming means confirms the number of sheets of the I

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recording medium stored in the paper feed cassette by detecting a height position of the paper storage board with a reflective optical sensor.

Fukuda discloses in figure 2 an image forming device comprising a paper storage board, 2, that supports a recording medium and moves to a lower position as the number of stored sheets of the recording medium increases; wherein the sheet quantity confirming means, 9 and 10, confirms the number of sheets of the 1 recording medium stored in the paper feed cassette by detecting a height position of the paper storage board, 2, with a reflective optical sensor, 10.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image forming apparatus disclosed by Tagawa in view of Masako with the teaching of Fukuda for the purpose of digitally indicating the remaining amount of sheets.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730) in view of Masako (JP 2000-313533), as applied to claim 1 above, and further in view of Nobusuke (JP 2000-335784).

With respect to claim 4, Tagawa in view of Masako discloses the claimed invention except wherein the paper feed cassette comprises: a matching portion made of metal that extends in the vertical direction along the edge of the stored recording medium and matches the recording medium; and a paper storage board made of metal that is movable along this matching portion in the vertical direction while contacting this matching portion and that moves to a lower position as the number of stored sheets of the recording medium increases; wherein the sheet quantity confirming means lets a current

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flow from the paper storage board to the matching portion, and confirms the number of sheets of the recording medium stored in the paper feed cassette based on the electrical resistance from the paper storage

Nobusuke teaches (in solution section of the abstract,) a matching portion made of metal that extends in the vertical direction along the edge of the stored recording medium and matches the recording medium (with, "residual detection part 9" as the matching portion); and a paper storage board made of metal that is movable along this matching portion in the vertical direction while contacting this matching portion and that moves to a lower position as the number of stored sheets of the recording medium increases(with, "bottom plate 2 "as the paper storage board); wherein the sheet quantity confirming means lets a current flow from the paper storage board to the matching portion, and confirms the number of sheets of the recording medium stored in the paper feed cassette based on the electrical resistance from the paper storage board to the matching portion, which changes according to the height position of the paper storage board.(In solution section lines 4-9.)

It would be obvious to one having ordinary skill in the art at the time of the invention to combine the image forming apparatus disclosed Tagawa in view of Masako with the teaching of Nobusuke for the purpose of making an emptied state visually recognizable when no paper is present in the paper feed cassette.

9. Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730), as applied to claim 7 above, and further in view of Masako (JP 2000-313533).

With respect to claim 8, Tagawa discloses the claimed image forming apparatus except for the paper feed cassette ejector. However, Masako discloses in drawing 2, an image forming apparatus, provided with a paper feed cassette, 1, and an image forming portion (not shown), that takes out a recording medium stored in this paper feed cassette 1 sheet by sheet in response to an image forming request and performs image forming in the image forming portion, the image forming apparatus comprising: a push-out means, 4, that can push out the paper feed cassette from an installed state toward an uninstalled state relative to the main body of the apparatus when the cassette is empty of sheets. It would have been obvious to combine the teaching of Masako with the image forming apparatus disclosed by Tagawa for the advantage of conspicuously displaying when sheets need to be replenished in an image forming apparatus and at the same time displaying where the sheets need to be replenished.

With respect to claim 22, Tagawa discloses the claimed image forming apparatus except for being configured to withhold said commencement of the image forming job by switching between an engaged state and a released stage of the paper feed cassette. However, Masako teaches an engaging mechanism that can switch between an engaged state and a released state of the paper feed cassette relative to the main body of the apparatus (with, "push-out means 4" as the engaging mechanism. The solution section lines 3-6 also teaches, "engaging mechanism that can switch between an engaged state and a released state of the paper feed cassette relative to the main body of the apparatus"). It would have been obvious to combine the teaching of Masako with the image forming apparatus disclosed by Tagawa for the advantage of conspicuously displaying when

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sheets need to be replenished in an image forming apparatus and at the same time displaying where the sheets need to be replenished.

10. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730), as applied to claim 7 above, and further in view of Aoki (US 6726197).

With respect to claim 15-16, Tagawa disclose the claimed image forming apparatus except for the auditory warning. However, Aoki teaches wherein said warning comprise a visual and an auditory warning, described in column 6 lines 59 – 65. It would have been obvious to combine the teaching of Aoki with the image forming apparatus disclosed by Tagawa for the advantage of including a warning for those who have difficulty seeing or cannot see.

11. Claims 9-10, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730), as applied to claim 7 above, and further in view of Sawada (US 6876819.)

With respect to claims 9 and 18, Tagawa discloses the claimed image forming apparatus except for a terminal machine. Sawada teaches an image forming apparatus that is configured to communicate with a terminal machine, 1; wherein said image forming request has been received from said terminal machine, 1; and wherein said warning is provided at the terminal machine1 described in column 2 lines 37 – 59 and more specifically Column 6 lines 1 - 20. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image forming

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apparatus disclosed by Tagawa with the teaching of Sawada for the purpose of remotely monitoring an operating condition of the image forming device.

With respect to claim 10, the method is necessitated by the structure disclosed in claim 9 above. The structure disclosed by the references as applied above to claim 9 is capable of carrying out the recited functions.

With respect to claim 20, Sawada further discloses wherein the image forming request is the result of a first work. Examiner would like to point of that since a warning message appears before commencement of a first work when there are insufficient papers, then it must inherently appear before a second work.

With respect to claim 21, Sawada further discloses wherein the image forming request is the result of a first work. Examiner would like to point of that since a warning message appears before commencement of a first work when there are insufficient papers, then it must inherently appear before a second work.

12. Claims 11 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730) in view of Sawada (US 6876819), as applied to claim 10 above, and further in view of Masako (JP 2000-313533).

With respect to claim 11, Tagawa in view of Sawada discloses the claimed image forming warning method except wherein said withholding of said commencement is accomplished by pushing out the paper feed cassette from an installed state toward an uninstalled state relative to the main body. However, Masako discloses in drawing 2, the device comprising: a paper feed cassette ejector,4, configured to push out the paper feed cassette from an installed state toward an uninstalled state relative to a main body of the

apparatus. It would have been obvious to combine the teaching of Masako with the image forming warning method disclosed by Tagawa in view of Sawada for the advantage of conspicuously indicating when there is insufficient paper in the apparatus to carry out a printing job and also for indicating where the paper needs to be replaced.

With respect to claim 23, Tagawa in view of Sawada discloses the claimed image forming apparatus except for the step of switching the paper feed cassette between an engaged state and a released state. However, above Masako teaches pushing out a sheet cassette when there is an insufficient amount of sheets. Since it would be impossible to commence a printing job when the cassette isn't in the installed state, the structure disclosed by the references above inherently carry out the recited functions. It would have been obvious to combine the teaching of Masako with the image forming warning method disclosed by Tagawa in view of Sawada for the advantage of conspicuously indicating when there is insufficient paper in the apparatus to carry out a printing job and also for indicating where the paper needs to be replaced.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730), as applied to claim 7 above, and further in view of Fukuda (JP 57-160844).

With respect to claim 12, Tagawa discloses the claimed invention except wherein: said paper feed cassette comprises a movable paper storage board supporting said one or more paper sheets, wherein a position of the paper storage board is dependant upon the number of paper sheets contained in said paper feed cassette; wherein said paper sheet quantifier comprises a reflective optical sensor configured to detect a height of said paper

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storage board; wherein said reflective optical sensor comprises a light emitter and a light receiver; wherein said light emitter is configured to emit light to be reflected from said paper storage board to said light receiver.

Fukuda discloses in figure 2, a paper feed cassette comprises a movable paper storage board, 2, supporting said one or more paper sheets, wherein a position of the paper storage board is dependant upon the number of paper sheets contained in said paper feed cassette; wherein said paper sheet quantifier comprises a reflective optical sensor configured to detect a height of said paper storage board, described in constitution section; wherein said reflective optical sensor comprises a light emitter, 9, and a light receiver, ; wherein said light emitter is configured to emit light to be reflected from said paper storage board to said light receiver, describe in the constitution section.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image forming apparatus disclosed by Tagawa with the teaching of Fukuda for the purpose of digitally indicating the remaining amount of sheets.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa (JP 11-231730), as applied to claim 7 above, and further in view of Nobusuke (JP 2000-335784).

With respect to claim 13 Tagawa discloses the claimed image forming apparatus except for a metal portion of said paper feed cassette that extends in the vertical direction along an edge of said one or more paper sheets contained in said paper feed cassette; a movable paper storage board supporting said one or more paper sheets, wherein a position of the paper storage board is dependant upon the number of paper sheets

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contained in said paper feed cassette; wherein said paper storage board comprises metal and is movable along said portion in the vertical direction while contacting said portion; wherein electrical resistance between the paper storage board and said metal portion is dependant upon a height position of the paper storage board; and wherein said paper sheet quantifier is configured to permit a current flow from the paper storage board to said metal portion and to confirm the number of paper sheets contained in the paper feed cassette based on electrical resistance from the paper storage board to said metal portion.

Nobusuke teaches (in solution section of the abstract) a metal portion, 9, of said paper feed cassette that extends in the vertical direction along an edge of said one or more paper sheets contained in said paper feed cassette; a movable paper storage, 2, board supporting said one or more paper sheets, wherein a position of the paper storage board is dependant upon the number of paper sheets contained in said paper feed cassette; wherein said paper storage board comprises metal and is movable along said portion in the vertical direction while contacting said portion; wherein electrical resistance between the paper storage board and said metal portion is dependant upon a height position of the paper storage board; and wherein said paper sheet quantifier is configured to permit a current flow from the paper storage board to said metal portion and to confirm the number of paper sheets contained in the paper feed cassette based on electrical resistance from the paper storage board to said metal portion described in solution section lines 4-9.

It would be obvious to one having ordinary skill in the art at the time of the invention to combine the image forming apparatus disclosed Tagawa with the teaching of Nobusuke for the purpose of making an emptied state visually recognizable when no

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paper is present in the paper feed cassette.

Response to Arguments

15. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLISTER PRIMO whose telephone number is (571)270-5069. The examiner can normally be reached on M - F 9 - 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy NGUYEN can be reached on (571) 272 - 2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP
March 19, 2009

/Daniel J. Colilla/
Primary Examiner
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